

IN THE CLAIMS:

1 1-76. (Cancelled)

1 77. (Currently Amended) A method for managing a computer network, comprising:
2 operating a plurality of servers connected to the network, each server of the plu-
3 rality of servers connected to one or more storage devices;

4 organizing a plurality of volumes across the plurality of servers, wherein each
5 volume is a logical arrangement of the one or more storage devices connected to a par-
6 ticular server;

7 consolidating two or more selected volumes of the plurality of volumes into a
8 group of volumes using a graphical user interface, wherein at least two volumes in the
9 group of volumes are located on separate servers of the plurality of servers;

10 identifying a party interested in statistical information related to operation of the
11 group of volumes using the graphical user interface;

12 polling all ~~servers~~ volumes within the group of volumes, by a monitoring process,
13 for statistical information;

14 combining statistical information from the servers within the group of volumes in
15 order to provide a statistical information for the group of volumes;

16 displaying, on the graphical user interface, the statistical information for relating
17 ~~only to~~ the group of volumes;

18 comparing the monitored statistical information to a threshold value to determine
19 whether an event has occurred; and

20 in response to determining that an event has occurred, notifying the interested
21 party.

1 78. (Previously Presented) The method according to Claim 77, further comprising:
2 determining the identity of the party in response to a predetermined event condi-
3 tion.

1 79. (Previously Presented) The method according to Claim 78, further comprising:
2 setting the threshold value for a parameter of a storage device in the group of
3 volumes; and
4 determining the event condition in response to the parameter exceeding the
5 threshold value.

1 80. (Previously Presented) The method according to Claim 79, further comprising:
2 including in the parameters at least one of a central processing utilization level, a
3 storage disk free space, a storage disk used space, and environmental condition, and an
4 operational status.

1 81. (Previously Presented) The method according to Claim 77, further comprising:
2 sending by e-mail to the party a notification of the statistical information related
3 to the selected group of volumes.

1 82. (Previously Presented) The method according to Claim 81, further comprising:
2 including at least one web link in the e-mail for use by the interested party.

1 83. (Previously Presented) The method according to Claim 77, further comprising:
2 retaining information with respect to the interested party in a database.

1 84. (Previously Presented) The method according to Claim 77, further comprising:
2 reporting the statistical information related to the group of volumes to a web page
3 so that the party can obtain the statistical information by accessing the web page.

1 85. (Previously Presented) The method according to Claim 77, further comprising:
2 presenting the statistical information related to the group of volumes through a
3 graphical user interface.

1 86. (Previously Presented) The method according to Claim 77, further comprising:
2 placing alerts on the graphical user interface, the alerts identifying a problem
3 condition shown by the statistical information related to the group of volumes.

1 87. (Previously Presented) The method according to Claim 86, further comprising:
2 coding the alerts with color to indicate a severity of the problem condition.

1 88. (Previously Presented) The method according to Claim 77, further comprising:
2 consolidating the statistical information related to the group of volumes with a
3 statistical information related to an another group of volumes.

1 89. (Previously Presented) The method according to Claim 77, further comprising:
2 using a RAID array of disks as a storage device of the one or more storage
3 devices.

1 90. (Currently Amended) A computer network apparatus, comprising:
2 a plurality of servers, each server of the plurality of servers connected to one or
3 more storage devices;
4 a plurality of volumes stored across the plurality of servers, wherein each volume
5 is a logical arrangement of the one or more storage devices connected to a particular
6 server;
7 a group of volumes formed by consolidating two or more selected volumes of the
8 plurality of volumes using a graphical user interface, wherein at least two volumes in the
9 group of volumes are located on separate servers of the plurality of servers;
10 statistical information related to operation of the group of volumes, the statistical
11 information identified as being of interest to a party using the graphical user interface;
12 a monitoring process used to poll all servers ~~volumes~~ within the group of vol-
13 umes;

14 statistical information combined from the servers within the group of volumes in
15 order to provide a statistical information for the group of volumes;

16 the graphical user interface further configured to display the statistical informa-
17 tion for relating only to the group of volumes;

18 the monitored statistical information is compared to a threshold value to deter-
19 mine whether an event has occurred; and

20 the party is notified if it is determined that an event has occurred.

1 91. (Previously Presented) The apparatus according to Claim 90, further comprising:
2 an event condition, the identity of the party determined in response to the event
3 condition.

1 92. (Previously Presented) The apparatus according to Claim 91, wherein the
2 threshold value is set for a parameter of a storage device in the group of volumes;
3 and
4 the event condition is determined in response to the parameter exceeding the
5 threshold value.

1 93. (Previously Presented) The apparatus according to Claim 92, further comprising:
2 the parameters selected from at least one of a central processing utilization level, a
3 storage disk free space, a storage disk used space, and environmental condition, and an
4 operational status.

1 94. (Previously Presented) The apparatus according to Claim 90, further comprising:
2 an e-mail message sent to the party, the e-mail message referring to the statistical
3 information related to the selected group of volumes.

1 95. (Previously Presented) The apparatus according to Claim 94, further comprising:
2 at least one web link included in the e-mail message for use by the interested
3 party.

1 96. (Previously Presented) The apparatus according to Claim 90, further comprising:
2 a database to retain information with respect to the interested party.

1 97. (Previously Presented) The apparatus according to Claim 90, further comprising:
2 a web page to report the statistical information related to the group of volumes so
3 that the party can obtain the statistical information by accessing the web page.

1 98. (Previously Presented) The apparatus according to Claim 90, further comprising:
2 a graphical user interface to present the statistical information related to the group
3 of volumes.

1 99. (Previously Presented) The apparatus according to Claim 98, further comprising:
2 alerts placed on the graphical user interface, the alerts identifying a problem
3 condition shown by the statistical information related to the group of volumes.

1 100. (Previously Presented) The apparatus according to Claim 99, further comprising:
2 color to code the alerts to indicate a severity of the problem condition.

1 101. (Previously Presented) The apparatus according to Claim 90, further comprising:
2 the statistical information related to the group of volumes consolidated with a
3 statistical information related to an another group of volumes.

1 102. (Previously Presented) The apparatus according to Claim 90, further comprising:
2 a RAID array of disks used as a storage device of the one or more storage devices.

1 103. (Currently Amended) A computer readable storage media, comprising:
2 said computer readable media containing instructions for execution on a processor
3 for the practice of a method of managing a computer network, the method having the
4 steps of,
5 operating a plurality of servers connected to the network, each server of the plu-
6 rality of servers connected to one or more storage devices;

7 organizing a plurality of volumes across the plurality of servers, wherein each
8 volume is a logical arrangement of the one or more storage devices connected to a par-
9 ticular server;

10 consolidating two or more selected volumes of the plurality of volumes into a
11 group of volumes using a graphical user interface, wherein at least two volumes in the
12 group of volumes are located on separate servers of the plurality of servers;

13 identifying a party interested in statistical information related to operation of the
14 group of volumes using the graphical user interface;

15 polling all ~~servers~~ ~~volumes~~ within the group of volumes, by a monitoring proc-
16 ess, for statistical information;

17 combining statistical information from the servers within the group of volumes in
18 order to provide a statistical information for the group of volumes;

19 displaying, on the graphical user interface, the statistical information for relating
20 ~~only to~~ the group of volumes;

21 comparing the monitored statistical information to a threshold value to determine
22 whether an event has occurred; and

23 in response to determining that an event has occurred, notifying the interested
24 party.

1 104. (Currently Amended) A system, comprising:
2 a plurality of storage appliances, wherein each storage appliance is configured
3 with at least one volume and each volume is a logical arrangement of a plurality of stor-
4 age devices;
5 a management station executing on a separate server from the plurality of storage
6 appliances, the management station configured to access usage and performance informa-
7 tion on the plurality of storage appliances and associated volumes;
8 a graphical user interface (GUI) connected to the management station, the GUI
9 configured to allow a user to organize two or more volumes from the plurality of storage
10 appliances into a group of volumes, and the GUI configured to display statistical informa-
11 tion relating to the group of volumes, wherein at least two volumes in the group of vol-
12 umes are located on separate storage appliances of the plurality of storage appliances;
13 statistical information combined from the storage appliances within the group of
14 volumes in order to provide a statistical information for the group of volumes;
15 a management station storage device connected to the management station, the
16 management station storage device configured with a database, the database storing the
17 statistical information for the group of volumes ~~information about the group of volumes~~
18 and a threshold value associated with statistical information for ~~of~~ the group of volumes;
19 and
20 the management station further configured to compare monitored statistical in-
21 formation for ~~of~~ the group of volumes with the threshold value and determine that an

22 event has occurred when the monitored statistical information exceeds the threshold
23 value and to notify an interested party of the event.

1 105. (Previously Presented) The system of claim 104, wherein the statistical informa-
2 tion stored on the database is bundled in various time periods of days, weeks, quarters, or
3 years that each have roughly a same number of intervals, each bundle having a different
4 relative time span between respective intervals to have samples for more recent time pe-
5 riods maintained in smaller intervals, while samples for older time periods are maintained
6 at successively longer sample intervals.

1 106. (Previously Presented) The system of claim 104, wherein the management station
2 is connected over a LAN to the plurality of storage appliances.

1 107. (Previously Presented) The system of claim 104, wherein each volume is formed
2 from two or more RAID groups within the plurality of storage devices.

1 108. (Previously Presented) The system of claim 104, wherein the interested party is
2 notified by an email, alarm, alert, telephone call, or page that is sent using an automated
3 system.

1 109. (Previously Presented) The system of claim 104, wherein the interested party is
2 one or more users, administrators, or managers.

110. (Previously Presented) The system of claim 104, further comprising:
- a command process that generates displays on the statistical information using a web-based format that is accessed by a browser on the management station's graphical user interface or on an interested party's client display.